

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1. (original): A protein complex comprising at least two, preferably identical, subunits wherein at least one subunit is unaltered and at least one subunit is fused to a first molecule of interest and wherein the protein complex is able to interact with a cell surface receptor via said subunits.

Claim 2. (original): A protein complex according to claim 1, wherein said first molecule of interest can associate with, preferably via a covalent bond, a second molecule of interest to form a multimer of interest.

Claim 3. (currently amended): A protein complex according to claim 1 ~~or 2~~, wherein said complex is essentially based on the heat labile enterotoxin (LT) of *E. coli* or on the cholera toxin (CT) of *Vibrio cholerae*, preferably the B subunits thereof.

Claim 4. (currently amended): A protein complex according to claim 1 ~~any of the preceding claims~~, wherein said complex comprises at least two subunits provided with a molecule of interest.

Claim 5. (original): A protein complex according to claim 4, wherein said at least two subunits are provided with a different molecule of interest.

Claim 6. (currently amended): A protein complex according to claim 1 ~~any one of the preceding claims~~, wherein said cell surface receptor is present on intestinal epithelial.

Claim 7. (currently amended): A protein complex according to claim 1 ~~any one of the preceding claims~~, wherein at least one molecule of interest is an antigen.

Claim 8. (original): A protein complex according to claim 7, wherein said antigen is selected from the group consisting of a bacterial antigen, a viral antigen, a protozoal antigen and a fungal antigen.

Claim 9. (currently amended): A protein complex according to claim 1 ~~any one of claims 1 to 6~~, wherein at least one molecule of interest is an immunomodulatory protein, preferably a cytokine or a heat-shock protein.

Claim 10. (currently amended): A protein complex according to claim 1 ~~any one of the preceding claims~~, wherein said complex comprises five B subunits of the heat labile enterotoxin (LT) of *E. coli* or the cholera toxin (CT) of *Vibrio cholerae*, wherein at least one subunit is unaltered.

Claim 11. (currently amended): A protein complex according to claim 1 ~~any one of the preceding claims~~, wherein said cell surface receptor comprises a ganglioside molecule, preferably GM1, or a mimic thereof.

Claim 12. (currently amended): A method for producing a protein complex according to claim 1 ~~any one of claims 1-11~~, comprising :

- a) providing a host cell with a nucleotide sequence encoding an unaltered subunit and a nucleotide sequence encoding a molecule of interest, wherein at least one molecule of interest is fused to a subunit;
- b) culturing said host cell thereby allowing expression of said nucleotide sequences and allowing for assembly of the protein complex;
- c) isolating the complex; and
- d) determining the binding of the complex to a cell surface receptor or to a molecule which mimics a cell surface receptor.

Claim 13. (currently amended): A method for producing a protein complex according to claim 1 ~~any one of claims 1-11~~, comprising:

- a) providing a first host cell with a nucleotide sequence encoding an unaltered subunit and a second host cell a nucleotide sequence encoding a molecule of interest, wherein at least one molecule of interest is fused to a subunit;
- b) culturing said host cells thereby allowing expression of said nucleotide sequences;
- c) isolating the proteins encoded by said nucleotides;
- d) contacting the isolated protein under conditions allowing for assembly of the protein complex;
- e) isolating the complex; and
- f) determining the binding of the complex to a cell surface receptor or to a molecule which mimics a cell surface receptor.

Claim 14. (original): A method according to claim 13, wherein said host cell is provided with said nucleotide sequences using transformation, co-transformation, crossing, re-transformation or transient transfection.

Claim 15. (currently amended): A cell comprising the protein complex according to claim 1 ~~any one of claims 1 to 11~~.

Claim 16. (original): A cell according to claim 15, wherein said cell is a plant cell.

Claim 17. (currently amended): A cell according to claim 15 ~~or 16~~, wherein said cell is an edible cell.

Claim 18. (currently amended): A composition comprising a protein complex according to claim 1 ~~any one of claims 1-11 or a cell according to any one of claims 15-17~~.

Claim 19. (currently amended): A vaccine comprising a protein complex according to claim 1 ~~any one of claims 1-10 or a cell according to any one of claims 15-17~~ and a pharmaceutically acceptable carrier.

Claim 20. (original): A pharmaceutical composition comprising an effective amount of a vaccine according to claim 19.

Claim 21. (currently amended): Use of a protein complex according to claim 1 ~~any one of claims 1-11~~ as a mucosal carrier molecule.

Claim 22. (currently amended): A method for modulating an immune response of a subject comprising administering to the subject at least one dose of an effective amount of a protein complex according to claim 1 ~~any one of claims 1-11~~, wherein the molecule of interest is an antigen.

Claim 23. (original): A method for mucosal immunisation comprising the administration of a vaccine according to claim 19 to a subject.

Claim 24. (new): A composition comprising a cell according to claim 15.

Claim 25 (new): A vaccine comprising a cell according to claim 15 and a pharmaceutically acceptable carrier.